



SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOT-223 Plastic-Encapsulate Regulator

A1117-ADJ

1A Low Dropout Linear Regulator

Features

- Low Dropout Voltage: 1.15V at 1A Output Current
- Trimmed Current Limit
- On-Chip Thermal Shutdown
- Three-Terminal Adjustable or Fixed 1.5V, 1.8V, 2.5V, 3.3V, 5V
- Operation junction Temperature: 0°C to 125°C

Application

- PC Motherboard
- LCD Monitor
- Graphic Card
- DVD-Video player
- NIC/Switch
- Telecom Modem

Marking: A1117ADJ1407

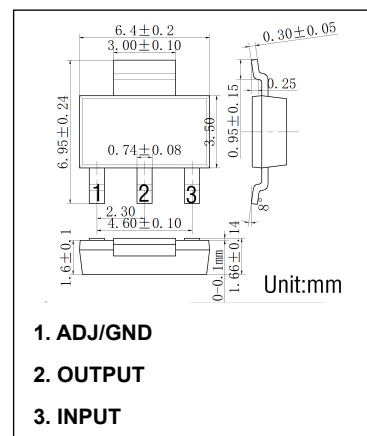
Absolute Maximum Ratings (Note 1)

Parameter	Value	Unit
V _{IN}	20	V
Maximum Junction Temperature	150	°C
Storage Temperature Range	-65 to 150	°C
Lead Temperature (Soldering, 10sec.)	300	°C
ESD (Machine Model)	600	V

Note 1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Recommended Operating Conditions

Parameter	Min	Max	Unit
V _{IN}		15	V
Operating Junction Temperature Range	0	125	°C



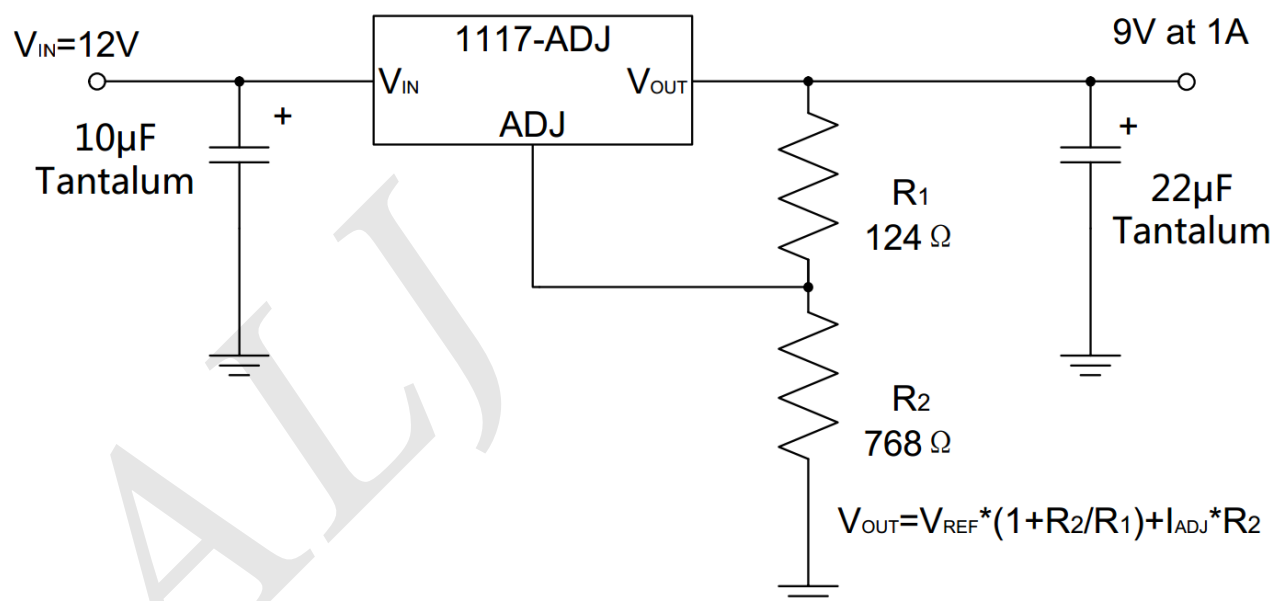
Electrical Characteristics

(Operating Conditions: $V_{IN} \leq 10V$, $T_J = 25^\circ C$ unless otherwise specified)

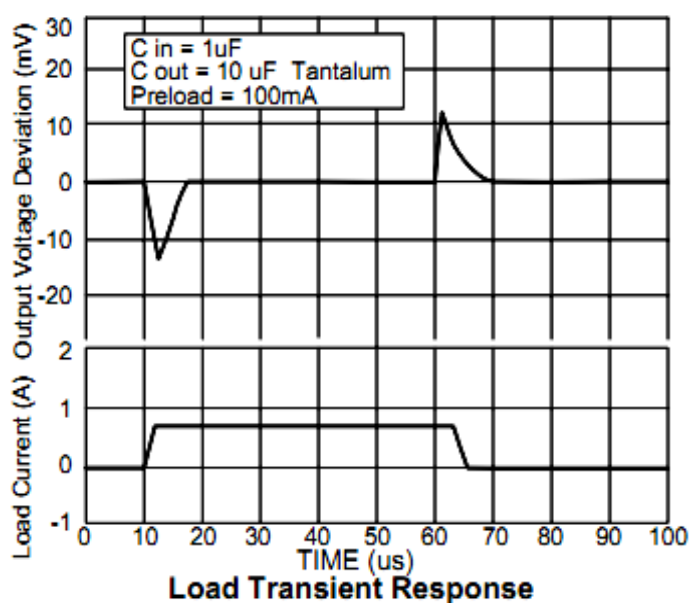
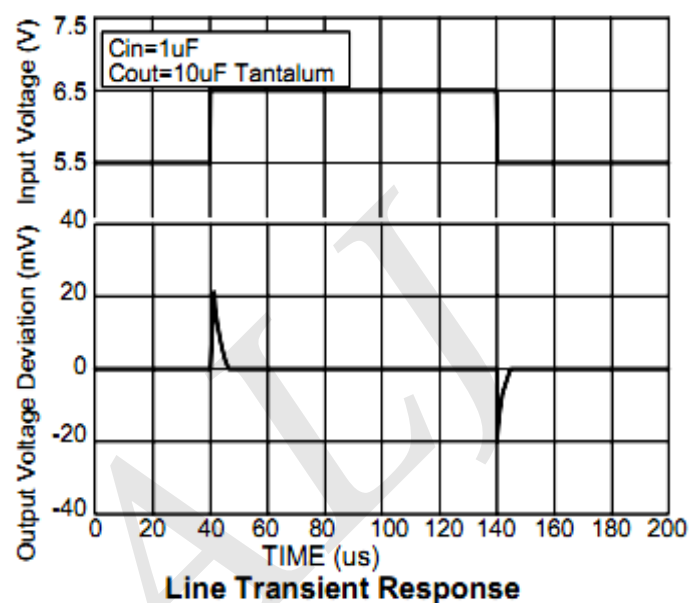
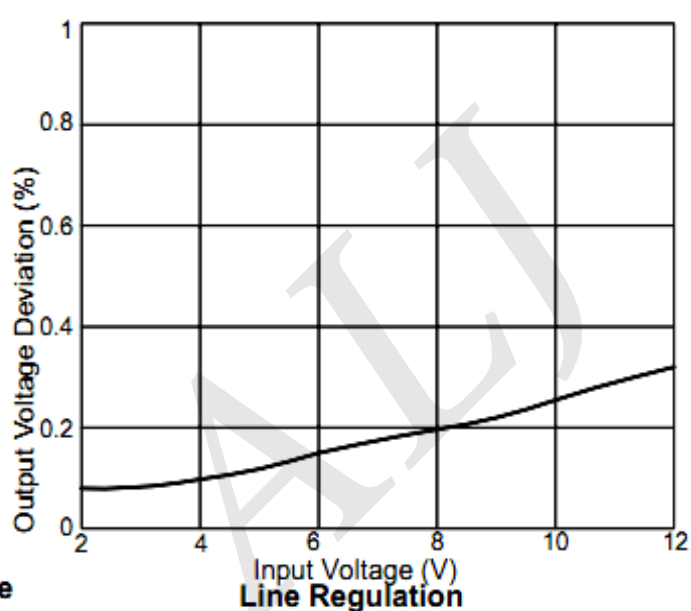
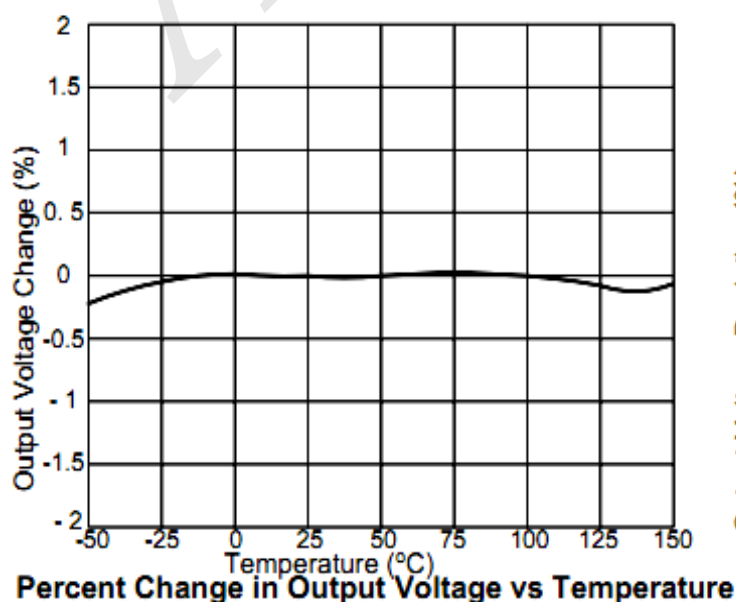
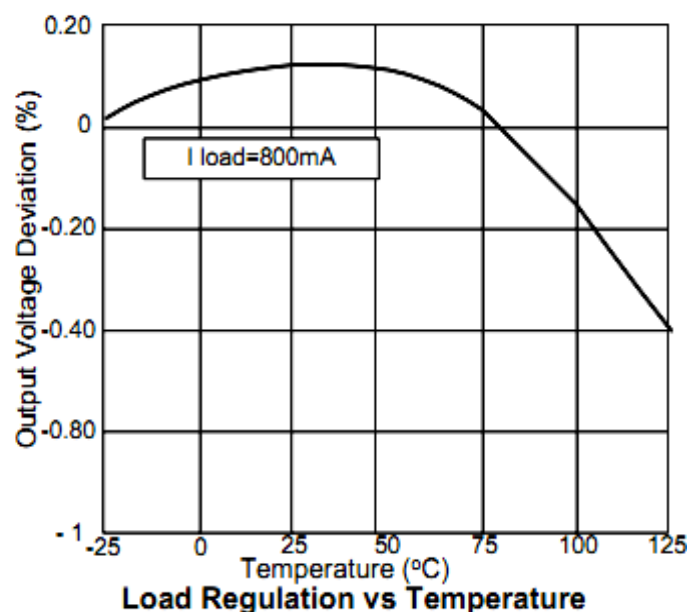
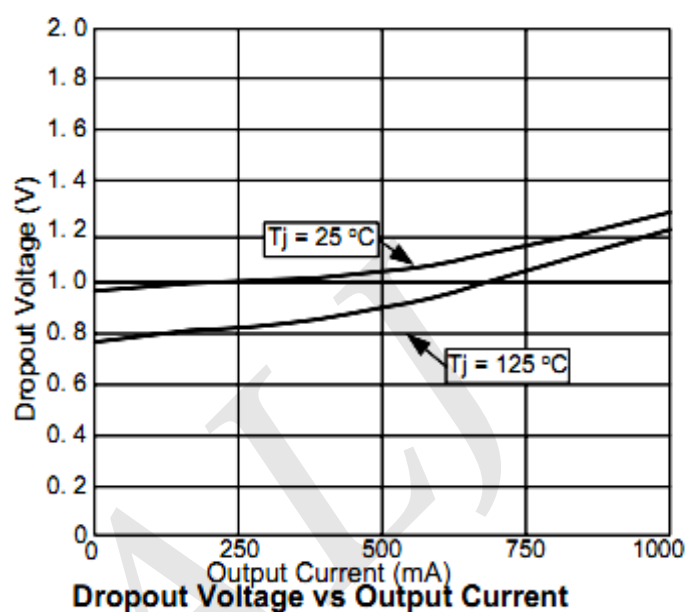
Parameter	Conditions	Min	Typ	Max	unit
Reference Voltage	$I_{OUT} = 10mA$, $V_{IN} - V_{OUT} = 2V$ $10mA \leq I_{OUT} \leq 1A$, $1.4V \leq V_{IN} - V_{OUT} \leq 8V$, $P \leq$ Maximum power Dissipation	1.238 1.225	1.250 1.250	1.262 1.270	V
Line Regulation	$I_{OUT} = 10mA$, $1.5V \leq V_{IN} - V_{OUT} \leq 10V$		0.035	0.2	%
Load Regulation	$V_{IN} - V_{OUT} = 2V$, $10mA \leq I_{OUT} \leq 1A$		0.2	0.4	%
Dropout Voltage	$\Delta V_{REF} = 1\%$, $I_{OUT} = 0.1A$		1.00	1.10	V
	$\Delta V_{REF} = 1\%$, $I_{OUT} = 0.5A$		1.08	1.18	
	$\Delta V_{REF} = 1\%$, $I_{OUT} = 1.0A$		1.15	1.25	
Current Limit	$V_{IN} - V_{OUT} = 2V$	1.25	1.35		A
Adjust Pin Current			60	120	μA
Adjust Pin Current Change	$1.4V \leq V_{IN} - V_{OUT} \leq 10V$, $10mA \leq I_{OUT} \leq 1A$		0.2	5	μA
Minimum Load Current (ADJ)	$1.5V \leq V_{IN} - V_{OUT} \leq 10V$ (ADJ only)		1.7	5	mA
Quiescent Current	$V_{IN} = V_{OUT} + 1.25V$		5	10	mA
Ripple Rejection	$f = 120Hz$, $C_{OUT} = 22\mu F$ Tantalum, $V_{IN} - V_{OUT} = 3V$, $I_{OUT} = 1A$	60	75		dB
Temperature Stability			0.5		%
Long-Term Stability	$T_A = 125^\circ C$, 1000hrs		0.3		%
RMS Output Noise(% of V_{OUT})	$T_A = 25^\circ C$, $10Hz \leq f \leq 10KHz$		0.003		%
Thermal Resistance, Junction to Case *			25		$^\circ C/W$
Thermal Shutdown	Junction Temperature		150		$^\circ C$
Thermal Shutdown Hysteresis			25		$^\circ C$

* With package soldering to copper area over backside ground plane or internal power plane RQJA can vary from $46^\circ C/W$ to $>90^\circ C/W$ depending on mounting technique and the size of the copper area.

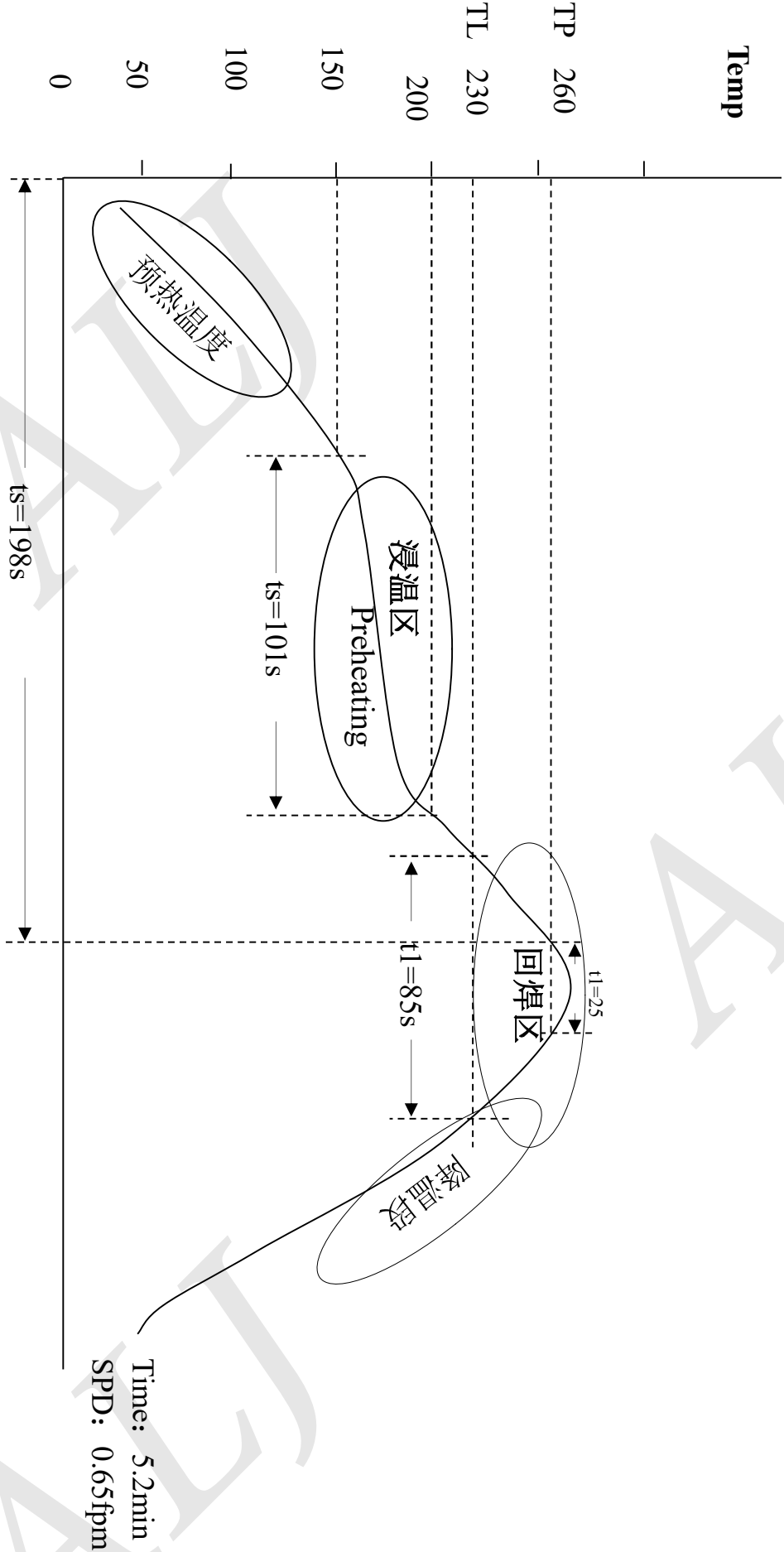
Typical Characteristics



Typical Characteristics

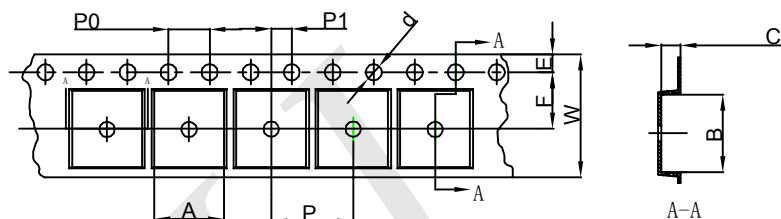


IR—Reflow Profile



SOT-223 Tape and Reel

SOT-223 Embossed Carrier Tape

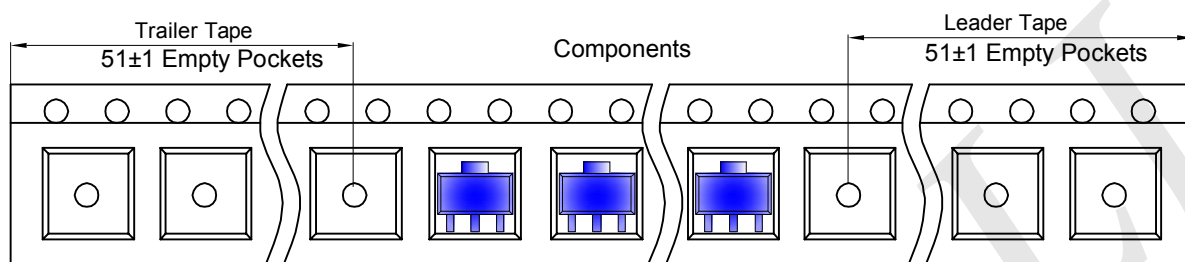


Packaging Description:

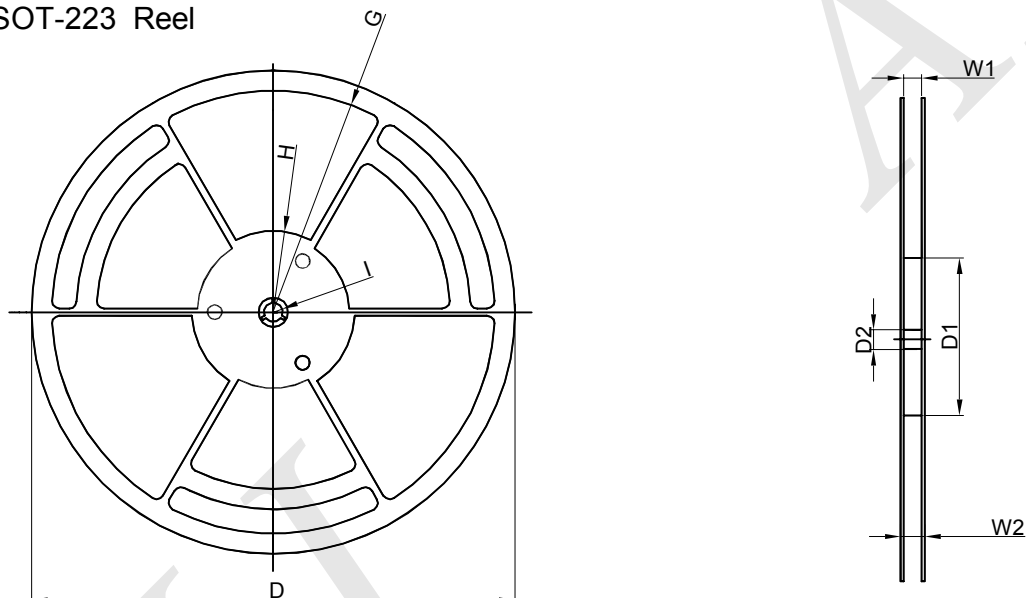
SOT-223 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 2,500 units per 13" or 33.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-223	6.765	7.335	1.88	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-223 Tape Leader and Trailer



SOT-223 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13 inch	2,500 pcs	336×336×48	20,000 pcs	445×355×365	